IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Klaus GIESE, et al.)	Confirmation No: 6369
)	
Application Serial No.: 10/633,630)	Group Art Unit: 1635
)	
Filed: August 5, 2003)	Examiner: Kimberly Chong
)	
For: INTERFERING RNA MOLECULES)	

United States Patent and Trademark Office
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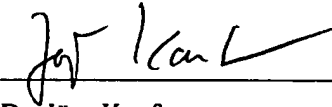## Declaration under 37 C.F.R. § 1.132

I, Dr. Jörg Kaufmann, declare and say:

1.   I am an inventor of the captioned application..

2.   I make this declaration to explain how to calculate the number of possible ways of arranging 2'- modified and unmodified nucleotides on antisense and sense strands of a double stranded RNA molecule where each strand is 23 nucleotides long.

3.   In a double stranded RNA molecule of this type, any nucleotide on either strand can be either modified or unmodified. In other words, there are two possibilities for each position. Thus, on a single strand that is n nucleotides long, there are 2^n possible ways of arranging modified and unmodified nucleotides on the strand. For example, each strand might be completely unmodified, might have from 1 to 22 modifications arranged in any possible combination of positions in the strand, or might be modified on every nucleotide.

4.   On a strand containing 23 nucleotides, there are therefore 2^{23} possible ways of arranging modified and unmodified nucleotides along the strand.

5.   In a double stranded molecule where each strand is 23 nucleotides long, there are 2^{23} possible ways of arranging modified and unmodified nucleotides on each strand, and the arrangements on each strand are independent. Accordingly, in such a double stranded molecule there are $2^{23} \times 2^{23} = 2^{46} = 7.0 \times 10^{13}$ possible arrangements.

6.   All statements made herein of my knowledge are true and all statements made on information and belief are believed to be true; and further, these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of the application or any document or any registration resulting therefrom.

Date: Feb. 08 /2008

Dr. Jörg Kaufmann